CLAIMS

What is claimed is:

1. A beneficiated sludge solids composition of increased nitrogen and phosphorus content and increased economic value comprising: digested municipal sewage sludge; ammonium sulfate; mineral acid; and phosphate salt.

2. The beneficiated sludge solids composition of Claim 1, comprising on a water-free basis: about 10 wt.% to about 77 wt.% of said digested municipal sewage sludge; about 21 wt.% to about 88 wt.% of said ammonium sulfate; about 1 wt.% to about 12 wt.% of said mineral acid; and about 0.3 wt.% to about 6 wt.% of said phosphate salt.

3. The beneficiated sludge solids composition of Claim 1, comprising on a water-free basis: about 25 wt.% to about 75 wt.% of said digested municipal sewage sludge; about 23 wt.% to about 73 wt.% of said ammonium sulfate; about 2.5 wt.% to about 9 wt.% of said mineral acid; and about 0.5 wt.% to about 5 wt.% of said phosphate salt.

4. The beneficiated sludge solids composition of Claim 1, comprising on a water-free basis: about 35 wt.% to about 70 wt.% of said digested municipal sewage sludge; about 28 wt.% to about 63 wt.% of said ammonium sulfate; about 2.5 wt.% to about 9 wt.%

of said mineral acid; and about 0.5 wt.% to about 5 wt.% of said phosphate salt.

5. The beneficiated sludge solids composition of Claim 1, wherein the digested municipal sewage sludge is anaerobically digested.

6. The beneficiated sludge solids composition of Claim 1, wherein the mineral acid is at least one member selected from the group consisting of sulfuric acid and phosphoric acid.

7. The beneficiated sludge solids composition of Claim 1, wherein the phosphate salt is at least one member selected from the group consisting of ammonium metaphosphate (NH_4PO_3), ammonium monobasic phosphate ($NH_4H_2PO_4$), ammonium dibasic phosphate ($(NH_4)_2HPO_4$), ammonium polyphosphate ($(NH_4)_5P_3O_{10}$)), trisodium phosphate (Na_3PO_4), tetrasodium pyrophosphate ($Na_4P_2O_7$), sodium tripolyphosphate ($Na_5P_3O_{10}$), hexasodium hexaphosphate ($Na_6P_6O_{18}$), potassium metaphosphate (KPO_3), potassium pyrophosphate ($K_4P_2O_7$), potassium monobasic phosphate (KH_2PO_4), potassium dibasic phosphate ($KHPO_4$), potassium tribasic phosphate (K_3PO_4) and calcium superphosphate ($Ca(H_2PO_4)_2$).

8. The beneficiated sludge solids composition of Claim 1, wherein the phosphate salt is at least one member selected from the group consisting of of trisodium phosphate and sodium tripolyphosphate.

9. The beneficiated sludge solids composition of Claim 1, having a water content of between about 0 wt.% to about 10 wt.%.

10. The beneficiated sludge solids composition of Claim 1, having a water content of between about 0 wt.% to about 5 wt.%.

11. The beneficiated sludge solids composition of Claim 10 in granulated form.

12. A beneficiated sludge solids composition of increased nitrogen and phosphorus content and increased economic value comprising: digested municipal sewage sludge; ammonium sulfate; and superphosphoric acid.

13. The beneficiated sludge solids composition of Claim 12, comprising on a water-free basis: about 10 wt.% to about 77 wt.% of said digested municipal sewage sludge; about 20 wt.% to about 87 wt.% of said ammonium sulfate; about 0.5 wt.% to about 12 wt.% of said superphosphoric acid.

14. The beneficiated sludge solids composition of Claim 12, comprising on a water-free basis: about 25 wt.% to about 75 wt.% of said digested municipal sewage sludge; about 24 wt.% to about 74 wt.% of said ammonium sulfate; about 1 wt.% to about 9 wt.% of said superphosphoric acid.

15. The beneficiated sludge solids composition of Claim 12, comprising on a water-free basis: about 35 wt.% to about 70 wt.% of said digested municipal sewage sludge; about 29 wt.% to about 64 wt.% of said ammonium sulfate; about 1 wt.% to about 9 wt.% of said superphosphoric acid.

16. The beneficiated sludge solids composition of Claim 12, wherein the digested municipal sewage sludge is anaerobically digested.

17. The beneficiated sludge solids composition of Claim 12 having a water content between about 0 wt.% to about 10 wt.%.

18. The beneficiated sludge solids composition of Claim 12 having a water content between about 0 wt.% to about 5 wt.%.

19. The beneficiated sludge solids composition of Claim 18 in granulated form.

20. A method of producing a beneficiated sludge solids composition comprising the steps: mixing ammonium sulfate, mineral acid and phosphate salt with "dewatered" digested municipal sewage sludge; and drying in a drier to a water content of between about 0 wt.% and about 10 wt.%.

21. The method of Claim 20, wherein the digested municipal sewage sludge is anaerobically digested.

22. The method of Claim 20, wherein the mineral acid is at least one member of the group consisting of sulfuric acid and phosphoric acid.

23. The method of Claim 20, wherein the phosphate salt is at least one member selected from the group consisting of ammonium metaphosphate (NH_4PO_3), ammonium monobasic phosphate ($NH_4H_2PO_4$), ammonium dibasic phosphate ($(NH_4)_2HPO_4$), ammonium polyphosphate ($(NH_4)_5P_3O_{10}$), trisodium phosphate (Na_3PO_4), tetrasodium pyrophosphate ($Na_4P_2O_7$), sodium

tripolyphosphate ($Na_5P_3O_{10}$), hexasodium hexaphosphate ($Na_6P_6O_{18}$), potassium metaphosphate (KPO_3), potassium pyrophosphate ($K_4P_2O_7$), potassium monobasic phosphate (KH_2PO_4), potassium dibasic phosphate ($KHPO_4$), potassium tribasic phosphate (K_3PO_4) and calcium superphosphate ($Ca(H_2PO_4)_2$).

24. A method of producing a beneficiated sludge solids composition comprising: mixing ammonium sulfate, and superphosphoric acid with "dewatered" digested municipal sewage sludge; and drying in a drier to a water content of between about 0 wt.% and about 10 wt.%.

25. The method of Claim 24, wherein the digested municipal sewage sludge is anaerobically digested.

26. The method of either Claim 20 or Claim 24 wherein the water content of the beneficiated sludge solids composition after drying is between about 0 wt.% and about 5 wt.%.

27. The method of either Claim 20 or Claim 24 wherein the material charge to the dryer includes a recycled portion of the dried beneficiated sludge.

28. The method of Claim 27, wherein the weight of the recycled portion of the dried beneficiated sludge in proportion to the weight of the "dewatered" digested municipal sludge entering the dryer is between about 0.5 and about 10 on a water free basis.

29. The method of Claim 28 additionally comprising the step of granulating the dried beneficiated sludge.